

MARKO-0 AND 1. DIAGNOSTIC TESTS BASED ON A DEVELOPMENTAL MODEL

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Based on the developmental model of arithmetical competence described by *Fritz & Ricken* criteria-oriented diagnostic tests were conceptualized (*Fritz, Ricken & Balzer, Szeged 2012*). Such diagnostic tests allow teachers to analyze the developmental line and to allocate a child to a certain level: Is the development of the child normal or retarded? Therefore tasks were generated, which cover the very core concepts of each level of the model. Such an ex ante assignment would allow to verify the validity of the model, if proven correct by ex post analysis using Rasch models and task difficulty analysis.

Marko-D 0 (*Ricken, Fritz & Balzer, in press*) was conceptualized for the preschool age (for 4-to-6-year-old children). The test includes five competence levels. Marko-D 1, the second diagnostic test, was designed for the first class (middle and end of grade one). For Marko-D 1 the developmental model was extended by one level. This 6th level has also been empirically tested and confirmed. Currently we are conducting the examinations to standardize MARKO-1.

Ricken, G., Fritz, A. & Balzer, L. (in press). MARKO - D - Mathematik und Rechnen - Test zur Erfassung von Konzepten im Vorschulalter. Göttingen: Hogrefe.